Technologies Pour Into American Industries, Spurring Growth in Employment and New Products

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"America's space program is paying off for American business and industry. Technologies, developed for the nation's space program by NASA and its contractors, are now at work in thousands of American firms," according to Harry G. Craft Jr., manager of the Technology Transfer Office at MSFC.

"The latest survey of industrial assistance activities conducted by NASA's Southeast Technology Transfer Alliance, of which the Marshall Center is a member, proves that American businesses consistently benefit from NASA's research and development expertise," Craft said.

As a result of NASA's technology transfer and industrial assistance activities, more than 18,500 jobs have been added to the nation's job bank or saved from elimination since January 1993, Craft reported.

Figure 193.—J. Wayne Littles, Marshall Center Director, seated left, joins with William Dunavant, Tennessee State Commissioner of Economic and Community Development, seated right, in signing a memorandum of understanding which renews a cooperative agreement between NASA and Tennessee. This arrangement enables businesses, schools and entrepreneurs to benefit from the wealth of technology being developed by NASA's talented team of engineers and scientists. Looking on from left are: Jeneene Sams of the Marshall Technology Integration Team; Jerry Seemann, Process Management Office Manager; Harry G. Craft, Jr., MSFC Technology Transfer Office (TTO) Manager; William Eads, Tennessee Advisor on Science and Technology; Dr. Kenneth Fernandez, Technology Utilization Office Manager; and Fred Schramm, Marshall TTO liaison to Tennessee. In addition to Tennessee, Marshall has similar agreements with Louisiana, Mississippi, Alabama, Georgia, North Carolina, South Carolina, Florida, Kentucky, and Arkansas.

Assistance from the space program, he said, has enabled American industry to introduce more than 1,212 new or improved products for sale at home and abroad, an increase of more than 150 from just 6 months ago.

Craft said the survey estimates the value of this assistance to American business and industry at $1.8 billion.

One of the most recent beneficiaries NASA's engineering expertise is Systech in Demopolis, AL. The company burns a slurry of waste material as fuel to heat cement kilns. The waste must be ground up before it can be burned, but iron and steel in the waste material was damaging the plant's grinder.

Engineers at the Marshall Center, familiar with similar metal waste extraction problems, were able to link Systech with a private firm that solved the problem. One aspect of NASA's technology transfer program involves linking companies requesting assistance with other firms which offer suitable, off-the-shelf, commercially available products and solutions.

Closer to home, Marshall engineers tackled a problem at Plasma Processes, Inc., (PPI) in Huntsville, AL. The company asked for help in developing a way to make low-cost tooling and metal liners for pressure vessels made from composite materials. The firm applies metal, ceramic and polymer coatings onto substrates for wear, thermal and corrosion protection. The Marshall Center has one of the world's leading productivity enhancement centers which is developing innovative methods of using composite materials industrially. As a result of Marshall's help, the company has increased employment and expanded its product line, thereby increasing sales.

The United Service Equipment Co. (USECO), a food service equipment manufacturer in Murfreesboro, TN, asked Marshall for assistance in evaluating a foam insulation material it had selected for use on food carts of the type used in hospitals to transport meal trays from the kitchen to patients. Lockheed-Martin Co., the NASA contractor that makes the insulation for the space shuttle's external fuel tank, tested the durability of USECO's insulating material and provided the information to the firm's engineering staff.

NASA's Southeast Alliance pools the scientific and engineering research and development resources of the MSFC with those at the Stennis Space Center in Mississippi, the Kennedy Space Center in Florida, and the Southern Technology Applications Center in Alachua, FL.

Despite its name, the alliance's technology transfer efforts do not target the southeastern United States exclusively. American businesses and industries in nearly every state have received technical assistance. The alliance does, however, have formal technology transfer agreements with most southeastern states' economic development agencies. These include Georgia, Alabama, Tennessee, North Carolina, South Carolina, Kentucky, Arkansas, Florida, Mississippi and Louisiana.

Pooling the resources of the alliance's members allows the resources of all four to be brought to bear on technological problems in the private sector. This permits a complementary approach to finding a solution. When appropriate, the resources of the entire 752-member Federal Laboratory Consortium can be accessed through alliance members.

"The alliance expedites American businesses', academic institutions' and entrepreneurs' acquisition, adaptation and application of a broad spectrum of state-of-the-art technologies and techniques which have been proven in the nation's space program to work most effectively and efficiently," Craft said.

As a member of the alliance, the Marshall Center actively solicits requests for assistance from private industry through the use of mobile technology utilization assistance teams. These teams work with state and local governments and economic development agencies to identify candidate industries for receipt of aerospace technological assistance.

"To date, more than 5,000 requests have been received from U.S. firms and processed by the Southeast Alliance's technology assessment board," Craft said. "Nearly 90 percent of these have been resolved successfully. Of the firms which have contacted the alliance for assistance, nearly all have indicated they would again seek NASA expertise if problems arise in the future."

Businesses wishing to discuss ways in which NASA technical assistance programs might benefit them are encouraged to call 1–800–USA–NASA.

Sponsor: Office of Commercial Development and Technology Transfer

Biographical Sketch: Bob Lessels is the technical writer/editor (physical sciences) for the Technology Transfer Office at MSFC. A graduate of the University of Nebraska, he has been a professional journalist for the past 30 years. He joined NASA in 1986.